

Notice of Allowability

Application No.

10/623,495

Examiner

Jennifer M. Dolan

Applicant(s)

KAWASE, TAKEO

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amdt of 3/14/06.
2. ☒ The allowed claim(s) is/are 38,39,45-51,59,60,62,63,65,66 and 68-79.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


CARL WHITEHEAD, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

DETAILED ACTION

Allowable Subject Matter

1. Claims 38, 39, 45-51, 59, 60, 62, 63, 65, 66, and 68-79 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The Examiner generally agrees with the Applicant's arguments of 14 March 2006, and adds the following comments: The primary reason for allowance is that all of the independent claims call for a method wherein indents are formed on a substrate, liquid materials are deposited on the surface of the substrate adjacent to the edge of the indent, and wherein the edges of the indents repel the spreading of the liquid material into the indents.

The closest prior art includes US 2004/0009608 to Caren et al., US 2003/0080143 to Kale et al., and US 6,696,225 to Kanbe et al., which teach the formation of a plurality of posts on layers above a substrate surface, wherein a liquid material is confined on the top surface of the posts by surface tension. These prior art references differ from the claimed invention in that they do not teach a plurality of indents or indents having an elongate shape, but rather teach a single "indent" having a plurality of posts. Since the shapes of the indent regions and substrate surface alter properties such as the surface tension and ability to confine fluid, thus allowing for large or elongated regions over which a liquid is confined, rather than posts permitting confinement of small droplets of fluid, as in the prior art, these differences are considered critical. Additionally, the prior art references do not teach forming the indents in a substrate surface, but rather in a

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material overlying the substrate surface. Since formation of the indents directly in the substrate causes surface tension of the fluid at the falling edges of the indent to confine the liquid, rather than differences in wetting characteristic between a substrate and an overlying layer, this claim limitation is considered distinct from, and unobvious over the prior art of record.

The only prior art teaching plural or elongated indents is US 3,600,061 to Heilmeier et al., wherein a liquid crystal material is disposed between two indents. In Heilmeier, however, the liquid material is designed and intended to enter or partially fill the indent regions, and hence, the edges of the indents do not repel the spreading of the liquid materials into the indents, as required by the claims. Since the prior art does not provide a teaching of the claim limitations listed supra or a reasonable motivation to modify the prior art of record to obtain the claimed methods, it is the Examiner's opinion that the invention as claimed would not have been obvious to a person having ordinary skill in the art.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Dolan whose telephone number is (571) 272-1690. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer M. Dolan
Examiner
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